

Work Order ID 88120

Thursday, July 26, 2012 1:20:57 PM

88120

Page 1

Item ID: D350-578-015

Revision ID:

Item Name: Bearpaw

Start Date: 7/26/2012 Start Qty: 1.00

Required Date: 8/17/2012 Req'd Qty: 1.00

Accept

N900040100

Setup Start

NS1

Stop

NS2

Reference:

Approvals:

Process Plan: MF

Date: 07-27

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
DSI 9616	REV A

100

100

DC

Document Control

DOCUMENT CONTROL

0.00

(DAS)
16
9/25
17/125

MLJ 12-9-25

160

160

Packaging

Packaging

Pick Kit

0.00

0.00

1 12/09/25 JF

170

170

QC

Quality Control

QC4- 100% Inspect kits for completeness

0.00

0.00

(DAS)
16
9/25
17/125

(XL)

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION		AGAINST DEPARTMENT/PROCESS							
			Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>					
Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>	Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>												
Material <input type="checkbox"/>												
Setup <input type="checkbox"/>												
Other <input type="checkbox"/>												
Process <input type="checkbox"/>												
Supplier <input type="checkbox"/>												
Training <input type="checkbox"/>												
Unapproved <input type="checkbox"/>												
FAULT CATEGORY												
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <hr/> <hr/> <hr/>	
											<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <hr/> <hr/>	
											<input type="checkbox"/> Other	

Work Order ID 88120

Thursday, July 26, 2012 1:20:57 PM

88120

Page 2

Item ID: D350-578-015

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Bearpaw

Stop

NS2Start Date: 7/26/2012 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 8/17/2012 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	*NR1*
	QC:	Date:	SPC (Y/N):	Date:	Stop		*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180 *180* Packaging	Packaging	0.00							<i>10/12/12 C</i>
Packaging	Memo	0.00							
	Identify and pack for shipping as per PPP D350-578-015 Location:								
190 *190* QC Quality Control	QC21- Final Inspection - Work Order Release	0.00							<i>12/19/25 JJ MF-09-25 12-09-25</i>
	Memo	0.00							

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION		AGAINST DEPARTMENT/PROCESS								
			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>						
			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>						
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>						
			Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>							
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector				
Doc/Data													
Equip/Tooling													
Operator													
Material													
Setup													
Other													
Process													
Supplier													
Training													
Unapproved													
FAULT CATEGORY													
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions						<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other			

Picklist Print

Thursday, July 26, 2012 1:20:55 PM

Page 1

Work Order ID: 88120

Parent Item: D350-578-015

Start Date: 7/26/2012

Required Date: 8/17/2012

Parent Item Name: Bearpaw

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV: A NEW ISSUE 12-07-25 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2274 Radius Block		Manufactured	No				Each	42.0000		86855	12	JB	C
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				ST009			42						
					86348		42						
D2529 Washer		Manufactured	No				Each	474.0000		12	JB	C	
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				ST010			474						
					79485		18						
					86909		456						
D2432-3 206 (24") Bearpaw		Manufactured	No				Each	0.0000		86909			
D4011-E Clamp, Short		Manufactured	No				Each	5.0000		88738	6	JB	C
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				ST460			5						
					83163		5						
D4012-1 Cushion		Manufactured	No				Each	18.0000		88737	6	JB	13/09/25
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				ST459			10						
					83165		10						
				ST460			8						
					69840		5						
					73299		3						

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
			Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <hr/> <hr/> <hr/>	
										<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <hr/> <hr/> <hr/>	
										<input type="checkbox"/> Other	

Picklist Print

Thursday, July 26, 2012 1:20:56 PM

Page 2

Work Order ID: 88120

Parent Item: D350-578-015

Parent Item Name: Bearpaw



Start Date: 7/26/2012

Required Date: 8/17/2012

Start Qty: 1.00

Required Qty: 1.00

12 C J.B.

Purchased No Each 498.0000

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
GA	50	
116419	50	
ST357	288	
122416	288	
ST359	160	
117514	51	
121060	1	
121541	108	

NAS1149D0463J Purchased No Each 29.0000

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST351	29	
116289	8	
119097	21	

AN960JD416 Washer

MS21042L4 Nut

Purchased No Each 6,314.0000

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
314	5000	
122452	5000	
ST300	1314	
104248	1	
116823	8	
119075	116	
121011	193	
121444	996	

122416

122452

122452

122452

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION		AGAINST DEPARTMENT/PROCESS						
			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
			Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio		<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <hr/> <hr/>	
										<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled	
										<input type="checkbox"/> Other	

REFERENCE ONLY

4.0 PARTS LIST

QTY 015	QTY 017	PART NUMBER	DESCRIPTION
X		D350-578-015	BEARPAW INSTALLATION
X		D350-578-017	BEARPAW INSTALLATION (No Pockets)
12	12	D22747	RADIUS BLOCK
12	12	D2529	WASHER
2		D2432-3	BEARPAW
6	6	D4011-1	CLAMP
6	6	D4012-1	CUSHION
	2	D4297-3	BEARPAW
12	12	AN4-20A	BOLT
12	12	AN960JD416	WASHER (NAS1149D0463J)
12	12	MS21042L4	NUT

5.0 WEIGHT AND BALANCE

INSTALLATION	WEIGHT	LATERAL		LONGITUDINAL	
		ARM	MOMENT	ARM	MOMENT
D350-578-015 Bearpaw installation	13.8 lb 6.26 kg	0.0 in 0.0 m	0.0 in-lb 0.0 m-kg	157.0 in 3.99 m	2167 in-lb 24.98 m-kg
D350-578-017 Bearpaw installation (No pockets)	18.6 lb 8.44 kg	0.0 in 0.0 m	0.0 in-lb 0.0 m-kg	157.0 in 3.99 m	2920 in-lb 33.68 m-kg

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED
[Signature]

BY: D. SHEPHERD (DE # 02)

DATE: 12.05.17
CERT. NO.: SH93-4
ISSUE NO.: 8

DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	99	DRAWING NO.	REV. A
MFG. APPR.	NA	DSI 9616	SHEET 3 OF 3
APPROVED	120517	TITLE	SCALE
DE APPR.	120517	BEARPAW INSTALLATION	NTS
DATE	12.05.17	COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	